C L A I M S

1. Method of melt spinning a group of multifilament yarns from a polymer melt, wherein the group of yarns is formed from a plurality of filaments extruded through nozzle bores, and withdrawn by a withdrawal means by the action of a withdrawal tension, and wherein the group of yarns is advanced after the emergence of the filaments from the nozzle bores and upstream of the withdrawal means in a linear arrangement through a cooling zone and cooled by a coolant,
characterized in that
the filaments of the group of yarns are precooled in the cooling zone (precooling zone) without a solidification of the polymer melt, and that the group of yarns in its linear arrangement is advanced into a second cooling zone (aftercooling zone), which is formed downstream of the precooling zone and upstream of the withdrawal means, and further cooled within the aftercooling zone by the action of a coolant flow, which is directed into the path of the yarn in such a manner that the filaments of the group of yarns solidify in a solidification range within the aftercooling zone, with the coolant flow having a predetermined flow velocity for influencing the yarn friction.

2. Method of claim 1,
characterized in that
the coolant flow is accelerated in an acceleration zone within the aftercooling zone to the flow velocity, and that the solidification range of the filaments extends within the acceleration zone of the aftercooling zone or directly downstream thereof.

3. Method of claim 1 or 2,

characterized in that
the flow velocity of the coolant flow upstream of the solidification range of the filaments is substantially equal to or greater than the advancing speed of the filaments.

4. Method of one of claims 1-3,
characterized in that
the cooling of the filaments within the precooling zone by the coolant is adjusted such that the position of the solidification range of the filaments within the aftercooling zone is kept in a predetermined desired range of the aftercooling zone.

5. Method of claim 4,
characterized in that
the temperature of the coolant is variable before entering the precooling zone.

6. Method of claim 4 or 5,
characterized in that
the volume flow of the coolant is variable before entering the precooling zone.

7. Method of one of claims 1-6,
characterized in that
the coolant flow in the aftercooling zone is generated by a suction effect.

8. Method of one of claims 1-6,
characterized in that
the coolant flow in the aftercooling zone is generated by a blowing effect.

9. Method of one of the foregoing claims, characterized in that
the coolant flow is generated from the coolant leaving the cooling zone.

10. Method of one of claims 1-9, characterized in that
the coolant flow is generated from the coolant leaving the precooling zone and from a coolant supplied downstream of the precooling zone.

11. Method of one of the foregoing claims, characterized in that
the coolant in the precooling zone is supplied to the filaments by a suction effect or by a blowing effect.

12. Method of one of the foregoing claims, characterized in that
the group of yarns is laid to a spun-bonded nonwoven after the solidification of the filaments.

13. Method of one of claims 1-11, characterized in that
the group of yarns is combined to a tow after the solidification of the filaments, and deposited in a can.

14. Method of one of claims 1-11, characterized in that
after the solidification of the filaments the group of yarns is divided into a plurality of individual yarns and wound to packages.

15. Method of one of the foregoing claims, characterized in that

the polymer melt consists of the basis of polyester, polyamide, or polypropylene.